CITY OF OREGON CITY - STANDARD NOTES

General Notes:

1. All work and materials shall conform to most recent edition of the ODOT/APWA Oregon Standard Specifications for public works construction as adopted and modified by the City of Oregon City.
2. Contractor shall obtain all required permits and licenses before starting construction. A City business license is required.
3. It shall be the responsibility of the contractor to verify all utility locations prior to construction and arrange for the relocation of any utilities in conflict with the proposed construction. The locations, depth and description of existing utilities shown were compiled from available records and/or field surveys. The engineer or utility companies do not guarantee the accuracy or the completeness of such records. Additional utilities may exist within the work area.
4. Oregon law requires that the rules adopted by Oregon Utility Notification Center be followed. Those rules are set forth in OAR 952-001-0090. You may obtain copies of the rules by calling the center or accessing via internet at www.callbeforeyoudig.org or call before you dig (800) 332-2344.
5. The contractor shall make provisions to keep all existing utilities in service and protect them during construction. Contractor shall immediately repair or replace any damaged utilities using materials and methods approved by the utility owner. No service interruptions shall be permitted without prior written agreement with the utility provider.
6. All water line crossings shall be in conformance with OAR Chapter 333. The City may require more stringent standards.
7. Contractor shall notify Project Engineer and City of Oregon City Public Works Construction Inspector Staff 48 hours in advance of starting construction and 24 hours before resuming work after shutdowns, except for normal resumption of work following Saturdays, Sundays, or holidays.
8. Contractor shall remove and depose of trees, stumps, brush, roots, topsoil, and other material in the roadway and where indicated on the plans. Material shall be disposed of in such a manner as to meet all applicable regulations. Contractor shall ensure recipients of fill materials removed offsite are permitted to receive said materials regardless of the receiving jurisdiction. City requires a grading permit per Oregon City Municipal Code Chapter 15.48 for a single site to receive over 10 cubic yards of material unless the grading work is already covered in another construction permit. Contractor is responsible for meeting other jurisdictions' grading/fill requirements when appropriate.

9. Construction vehicles including trailers shall park on the construction site or at a location(s) indicated on the approved plan. This includes all subcontractors' vehicles and trailers. Hours of construction shall be 7 AM to 6 PM, Monday through Friday; 9 AM to 6 PM Saturday. Construction is prohibited on Sunday. Construction activities include all field maintenance of equipment, refueling, and pick-up and delivery of equipment as well as the actual construction activity.

10. The contractor shall submit a 15% Maintenance Bond/Guarantee as required by the City of Oregon City. The amount of the guarantee is 15% of the public improvements cost.

11. The contractor shall keep an approved set of plans on the project site at all times.

12. Upon completion of construction, the contractor shall submit "redline drawings" to Project Engineer for preparation of record drawings. "Redline drawings" document all deviations and revisions to the approved plans; they also record a description of construction materials actually used (pipe material, etc.). From the information contained on these redline drawings, as well as any notes recorded by the Project Engineer, the Project Engineer shall prepare and submit record drawings to Public Works Engineering Development Services (paper copy first for city approval and then high-resolution electronic pdf file as directed by city staff). Record drawings are required for any public improvements, as well as for any (public or private) stormwater management quantity or quality control facility. City acceptance of any public improvements are tied to the submittal of these record drawings. CAD-generated plans shall also have electronic record drawings submitted to the City in compliance with the digital mapping requirements. Comply with latest City standard for As-Built Record Drawings and Survey.

13. Contractor shall erect and maintain temporary traffic control per the "Manual on Uniform Traffic Control Devices" (MUTCD), Part 6, and deviations to the MUTCD as adopted and modified by ODOT. Should work be in an existing public right of way that is open to traffic, the contractor shall submit a traffic control plan to appropriate City, County, and State personnel for approval. Approvals shall be obtained prior to start of work.

14. The contractor shall perform all work necessary to complete this project in accordance with the plans and specifications including such incidentals as may be necessary to meet the intent of the project contract documents, applicable agency requirements and other work as necessary to provide a complete project.

15. There shall be no alteration or variance from the approved plans. The minimum submittal requirements for plan revisions are as follows:

    - Plan revisions shall be submitted on an 8½" X 11" sheet (minimum) with a 2" by 2" block space for city approval; and
    - Plan revision shall be wet stamped and signed by Project Engineer, and
    - Any required engineering calculations, or other agency approvals, shall be included with the submitted revision.

- Upon approval of the submitted revisions, the City Engineer shall affix an approval stamp to the revised plan sketch and the plan shall be returned to the Project Engineer. It is the responsibility of the Project Engineer to distribute the approved plan revision to all parties to whom the original approved plans were issued. All approved revisions shall be affixed to the construction field prints (also known as the Contractor's "redline drawings").

16. Contractor shall provide effective erosion protection to include, but not limited to, grading, ditching, hay bales, silt fencing, and sediment barriers to minimize erosion and impact to adjacent property. See separate erosion and sediment control notes and approved plans.

17. Open trenches shall be strictly limited to a maximum of 100 linear feet within active street rights-of-way unless limited to a lesser amount by permit. No trenches will be allowed to remain open overnight. Use of steel plates overnight shall be kept to a minimum and if used shall be firmly secured with pins and cold or hot A/C mix.

18. Contractor shall maintain and coordinate access to all affected properties.

19. Any pavement distortion caused by the construction operations shall be temporarily repaired same day of occurrence (or in a time period agreed to with the City Inspector), using cold or hot A/C mix. Owner/contractor shall be required to maintain repaired areas until City final acceptance is granted.

20. If ground water springs are encountered during construction, the contractor shall immediately contact the Project Engineer. The Project Engineer shall direct the contractor to take measures to ensure that water is not conveyed through utility trenches and the natural flow path of the spring is altered as little as practicable. The Project Engineer shall submit a report summarizing the finding to the City. Impacts and mitigation shall be addressed for City approval.

21. It is the contractor's responsibility to visit the site and verify all existing conditions before the start of work. The contractor shall take all necessary field measurements and otherwise verify all dimensions and existing construction conditions indicated and/or shown on the plans. Should any error or inconsistency exist, the contractor shall not proceed with the work affected until reported to the Project Engineer for clarification or correction.

22. Any inspection by the City, County, State, Federal Agency or Project Engineer shall not, in any way, relieve the contractor from any obligation to perform the work in compliance with the applicable codes, regulations, city standards and project contract documents.

23. Project Plans shall always have an engineer-of-record performing the function of Project Engineer. If the project engineer is changed during the course of the work, the City shall be notified in writing and the work shall be stopped until the replacement engineer has agreed to accept the responsibilities of the Project Engineer. The new Project Engineer shall provide written notice of accepting project responsibility to the City within 72 hours of accepting the position as Project Engineer.

24. For utility trenches 12-feet in depth and under; complete a minimum of one compaction density test at approximately one half of the trench depth and an additional test at or near the surface. For trenches over 12-feet in depth; complete one compaction density test at approximately 4-feet above the pipe, one test at or near the surface and one additional test approximately half way in between. Compaction density tests shall be performed at a minimum every 100 feet.

Engineered Grading Notes:

1. Project grading limits shall be within the project's property boundary and/or street right-of-way, unless otherwise shown on plans. No grading shall be conducted in wetlands or other environmentally sensitive areas unless specifically shown on the approved plans.
2. The identification or removal of unsuitable material shall be done with consultation with the Project Engineer or Project's Geotechnical Engineer.
3. Remove and dispose of all organic and/or unsuitable materials, including trees, stumps, roots, brush, and grass in such a manner to meet all applicable regulations. On-site disposal shall be as determined by the Project Engineer or Project's Geotechnical Engineer.
4. Stockpile excess soil material on-site as directed by the Project Engineer, project's Geotechnical Engineer, or approved plans (unless approved plans identify excess excavation is to be removed from the site).
5. The Contractor shall protect all trees not specifically shown to be removed on approved plans.
6. Grade the site to the elevations shown on the drawing with the necessary adjustments to accommodate the finish grades as specified. Shape future paved areas per the plans to a subgrade elevation that will accommodate future base rock and paving.
7. Straight grades shall be run between finish grade and/or finish contour lines shown, unless otherwise noted. Finish grades are to drain as indicated on the plans. Rough grading shall be finished by blading and raking to reasonable smooth contours with gentle transitions.
8. All cut or fill slopes shall be constructed at no steeper than four (4) horizontal to one (1) vertical unless otherwise shown on approved plans.
9. Areas to receive fill materials shall be prepared by removing all organic and unsuitable materials and "proof rolled". Benching may be required. Material in soft spots within a proposed building envelope, paved area, or sidewalk area shall be removed to the depth required (as directed by the Project Engineer or the Project's Geotechnical Engineer) and shall be replaced with suitable backfill.
10. The construction of structural fills and/or excavations connected with any public improvements shall be in accordance with the written recommendations made by the Project's Geotechnical Engineer in an approved report.
11. Compaction Tests and Reports for each lot shall be conducted by an approved testing laboratory, test frequency shall be per the Project Engineer, or Project's Geotechnical Engineer. Testing to commence with fill activities and as a minimum, one test will be taken for every 500 cubic yards placed.

12. If dusty conditions exist, the permittee shall apply a fine spray of water on the surface to control the dust.

13. Engineered fill in the Building Envelope shall be certified by the Project Engineer. This certification shall be sent to the City Building Official upon submission of the building permit if it has not already been received by the City Building Official.

Storm Drain Notes:

1. Pipe Rules:

   a. Ten-inch diameter pipe or smaller shall be PVC storm drainpipe conforming to either ASTM D-3034, or seamless PVC pipe conforming to ASTM F794 unless otherwise noted on the approved plans. Concrete pipe conforming to ASTM C-14, Class 3 is also acceptable. Watertight gaskets are required on all pipe sizes.

   b. Twelve-inch through 48-inch diameter pipe (for storm drain pipe – but not for culverts) may be one of the following, unless otherwise noted on the approved plans:

      - Class V reinforced concrete pipe conforming to ASTM C-76. Water tight joints required. When used in public right-of-way there must be one-foot minimum cover from roadway subgrade.
      - Ductile Iron; Class 50 wall thickness for pipe sizes up to 12 inches; Class 51 wall thickness for 14 inch and larger; water tight gaskets required. When used in public right-of-way there must be two-foot minimum cover from roadway subgrade unless Class 52 is used allowing a one-foot minimum cover.
      - Corrugated high-density polyethylene pipe (HDPE) – smooth interior (ADS N- 12 or equivalent, maximum 30-inch diameter conforming to AASHTO M-294) (with watertight gaskets). When used in public right-of-way there must be two- foot minimum cover from roadway subgrade. Concrete headwalls/treatments are required for any exposed ends.
      - Polyvinyl chloride (PVC), seamless, sewer pipe: (SDR 35, meeting requirements of ASTM D3034 for pipes up to 15-inch), (ASTM F-679 for pipes 18 to 27 inches), (ASTM F- 794 for pipes up to 30 inches), (AWWA C-900 DR 18 for up to 12-inch), (AWWA C-905 DR 25 for pipes 14 to 30-inches). When used in public right-of-way, the minimum cover shall be two-foot minimum cover from roadway subgrade, except for C-900 and C-905, which requires one- foot minimum cover from roadway subgrade. Water tight gaskets required. Concrete headwalls/treatments are required for any exposed ends.

   c. Perforated pipe shall be HDPE pipe conforming to AASHTO M-294 or PVC pipe conforming to either ASTM D3034 or ASTM 2729, unless otherwise noted on the approved plans or standard drawings.

   d. Culvert pipe shall be Class V reinforced concrete pipe conforming to ASTM C-76, unless otherwise noted on the approved plans. When used in public right-of-way there must be one-foot minimum cover from roadway surface.

2. All trench excavation shall be in conformance with Oregon City Standard Drawing for Pipe Bedding and Backfill, and shall be classified as either rock or common excavation. All excess material from the trench excavation shall be disposed of to an approved site.

3. Pipe bedding and trench backfill may be Class A on all sewer lines outside public streets or outside of paved areas. Trench backfill shall be Class B in all public streets or paved areas in the project as outlined in Oregon City Standard Drawing for Pipe Bedding and Backfill. The Class B backfill shall extend a minimum of three feet (3') beyond the edge of street or hard surfaced areas. CDF Backfill may be required instead of Class B as applicable per Oregon City Pavement Cut Standard.

4. Trench backfill compaction shall be 95% of AASHTO T-180 Modified Proctor from top of pipe zone up to road base. Contractor to determine type of equipment and method to use to achieve the required compaction. 95% compaction, AASHTO T-180, is required in public streets and paved areas, 85% compaction of AASHTO T-99 in non- paved or unimproved areas.

5. Manhole walls shall be precast reinforced concrete manholes of the size required per manufacturer's recommendations for the pipe sizes and number of openings.

6. Box culvert shall be precast reinforced box culvert sections meeting the requirements of ASTM C-850, unless otherwise noted on the approved plans.

7. If drainage field tile is encountered during construction, the contractor shall notify the Project Engineer and the City's Inspector. The intent will be to connect any functioning drain tile system to the storm drain system in an appropriate manner. Such connection must be noted on the as-built drawings and must be approved by the Project Engineer as well as the City's Inspector.

8. All house service stubouts shall be a minimum of three feet (3') beyond easement or right- of-way line and shall be marked with a pressure treated 2" x 4" (painted white with the label of "STM") for future location. Service stubouts shall be a minimum of 6-inch diameter pipe at minimum slope of 1%. Curb shall be stamped above storm service with the label "ST". Tracer wire shall be installed with service stubouts.

9. All manholes located in unimproved easements and right of ways shall be provided with tamper proof lids, be installed two feet (2') above existing grade and marked with a marker post per Oregon City Standards unless otherwise noted.

10. All materials inspections and tests are to be in accordance with City of Oregon City and/or ODOT/APWA standard specifications. All sections failing to pass the required tests and inspections shall be located and repaired. After repair, these sections shall be retested and inspected until found acceptable by the City.

11. All storm piping shall be video inspected by the contractor per latest edition of ODOT/APWA Standard Specifications for Construction, and submitted to the City Inspector with a written report. Before acceptance by the City, stormwater pipe shall be shown clear of any debris, rocks, gravel, sand, silt and other foreign material as well as having the final course of AC pavement in place within the pipe's tributary drainage area.

Water System Notes:

1. All work and materials shall comply with the applicable sections of City of Oregon City Public Works Standards, Oregon State Health Division Administrative Rules, Chapter 333, recent edition of AWWA Standard Specifications and ODOT/APWA Standard Specifications for Construction.
2. Waterline shall be ductile iron pipe, factory cement-mortar lined and seal- coated, conform with latest revision of ANSI/AWWA C151/A21.5, ANSI/AWWA C104/A21.4, ANSI/AWWA C111/A21.11, and ASTM A536, and be Standard Thickness Class 52 unless specified otherwise. Full pipe sections shall be 18 feet in length. Restrained joints shall be used unless an alternative is approved by the City Engineer. Non-restrained joints shall be rubber gasket, push-on type joint, when approved unless specified otherwise.
3. All pipe shall have a minimum cover of 36 inches below the future finished grades in easements and street rights-of-way unless specified otherwise or other measures are approved by the City Engineer.
4. Gate valves shall be ductile iron body, conform to latest revision of AWWA C509, and shall be UL listed and FM approved. Butterfly valves shall ductile iron body and conform to AWWA C-504.
5. Copper tubing shall be Type “K” soft for 1" service lines with a 5/8x3/4” or 3/4" or 1” water meter. Copper shall be rigid for 2" service lines with either a 1-1/2” or 2” water meter.
6. All water meters to be installed by the City of Oregon City Water Department.
7. Fire hydrant assemblies shall be installed per City Standard Drawings. Fire hydrants shall be Centurion fire hydrant as produced by Mueller Co., with a five and 1/4-inch valve opening, three port nozzles, two 2-inch hose nozzles, and 4-inch threaded pumper nozzle. Alternative fire hydrant manufacturer’s and models are: Clow Valve Company, Medallion Model No. F-2545. All fire hydrants installed for a particular project shall be the same manufacturer and model.
8. All fittings shall be ductile iron conforming to ASTM A536, ANSI/AWWA C110/A21.10, ANSI/AWWA C104/A21.4, and ANSI/AWWA C153/A21.53. Fittings shall have cast upon them the manufacturer’s identification, pressure rating, nominal diameters of openings, and the number of degrees or fractions of a circle for all bends. Fittings shall be coated inside with cement mortar with an asphaltic seal-coat. When specified, fittings shall be ductile iron mechanical joint (MJ) or flange joint (FLG) conforming to AWWA C153 and C110.
9. All tees, bends, valves and blow-off locations shall, unless otherwise noted, have poured in place concrete thrust blocks conforming to the City Standard Drawings. All fittings shall be restrained with a Mega-Lug follower, or approved equal.
10. All trench excavation shall be in conformance with Oregon City Standard Drawing for Pipe Bedding and Backfill, and shall be classified as either rock or common excavation. All excess material from the trench excavation shall be disposed of to an approved site.

11. Pipe bedding and trench backfill may be Class A on all water lines outside public streets or outside of paved areas. Trench backfill shall be Class B in all public streets or paved areas in the project as outlined in Oregon City Standard Drawing for Pipe Bedding and Backfill. The Class B backfill shall extend a minimum of three feet (3') beyond the edge of street or hard surfaced areas. CDF Backfill may be required instead of Class B as applicable per Oregon City Pavement Cut Standard.

12. Trench backfill compaction shall be 95% of AASHTO T-180 Modified Proctor from top of pipe zone up to road base. Contractor to determine type of equipment and method to use to achieve the required compaction. 95% compaction, AASHTO T-180, is required in public streets and paved areas, 85% compaction of AASHTO T-99 in non-paved or unimproved area.

13. All sanitary sewer lines within ten (10) feet laterally or eighteen (18) inches vertically of a water main shall be encased in concrete or constructed of Ductile Iron Water Pipe with watertight joints.

14. Sanitary sewers crossing a water main shall be made at approximately 90 degrees and have eighteen (18) inches of vertical clearance. Otherwise, the sanitary sewer shall be constructed of ductile iron water pipe with watertight joints for a distance of nine (9) feet from both sides of the water line.

15. The maximum allowable joint deflection shall not exceed twelve (12) inches per eighteen (18) feet of laying length.

16. The valve stem for butterfly valve shall be located on the street centerline side of the waterline unless otherwise noted on the plans or directed in the field. All pipe twelve (12) inches or larger shall have butterfly valves.

17. All new water pipelines under construction shall be physically disconnected from the City's existing distribution system. Connection to the existing distribution system shall be made after passing hydrostatic and bacteriological testing and acceptance by City of Oregon City Public Works Department, Water Division. Hydrostatic testing shall be monitored by City staff. Bacteriological tests shall be taken by City staff certified as Distribution Operators by Oregon Department of Human Services, Drinking Water Program. Connection of new pipelines to the existing system shall be observed by City staff.

18. Hydrostatic Tests: The test shall conform with AWWA C600, with the exception that the test duration shall be 60 minutes with zero loss in pressure allowed. The test pressure shall be 150 psi at the highest point of elevation in any section or one and a half times the working pressure, as determined by the Engineer. The duration and pressure shall be monitored by City staff.

19. Disinfection: Pipelines shall be flushed and disinfected before placing into service. Disinfection shall conform with AWWA C651. Super-chlorinate the new pipeline for a minimum of 24 hours, no more than 36 hours. After 24 hours the chlorine concentration must be a minimum of 10 ppm, at which time the pipeline is flushed until residual chlorine level is met (nominal 1 ppm). Pipeline shall remain in static condition with distribution water (nominal 1 ppm chlorine residual) a minimum of 16 hours, then take two (2) bacteriological samples 15 minutes apart while leaving the water running at the sample locations. Highly chlorinated water used for disinfection shall not be discharged into the City's municipal separate storm sewer system or surface waters. Compliance with all applicable federal, state and local regulations concerning discharge of chlorinated water shall be followed.

20. Water line valve abandonment requires removal of the valve from the tee or mainline piping, in its entirety. A flange cap, MJ plug or MJ cap shall be installed at the removal point. Coordination with Water Operations required for water main shutdown.

Sanitary Sewer Notes:

1. All trench excavation shall be in conformance with Oregon City Standard Drawing for Pipe Bedding and Backfill, and shall be classified as either rock or common excavation. All excess material from the trench excavation shall be disposed of to an approved site.
2. Pipe bedding and trench backfill may be Class A on all sewer lines outside public streets or outside of paved areas. Trench backfill shall be Class B in all public streets or paved areas in the project as outlined in Oregon City Standard Drawing for Pipe Bedding and Backfill. The Class B backfill shall extend a minimum of three feet (3') beyond the edge of street or hard surfaced areas. CDF Backfill may be required instead of Class B as applicable per Oregon City Pavement Cut Standard.
3. Trench backfill compaction shall be 95% of AASHTO T-180 Modified Proctor from top of pipe zone up to road base. Contractor to determine type of equipment and method to use to achieve the required compaction. 95% compaction, AASHTO T-180, is required in public streets and paved areas, 85% compaction of AASHTO T-99 in non-paved or unimproved areas.
4. Subsequent settlement of the finished surface within the warranty period shall be considered to be a result of improper compaction and shall be promptly repaired by the contractor at no expense to the City of Oregon City.
5. All sewer lines shall be tested and video inspected by the contractor per latest edition of APWA/ODOT Oregon Standard Specifications for Construction with the exception that, all lines shall be video inspected downstream, with the flow.
6. All manholes shall be vacuum tested per APWA/ODOT Oregon Standard Specifications for Construction.
7. Pavement resurfacing, where required shall conform to Oregon City Pavement Cut Standards or the Contract Documents, whichever is greater.
8. Project Engineer of Record reserves the right to adjust grades or alignment to accommodate other utilities as required; such adjustments shall be reviewed by the City of Oregon City engineering staff, and approved by the City prior to commencing work.
9. All PVC sewer pipe shall conform to ASTM D3034, SDR35 specifications and shall be clearly marked as such and shall provide a minimum of 4’ of cover (measured from top of pipe to finished grade); unless the cover requirement cannot be met, in which case the pipe material shall be changed to PVC C-900 SDR 25 or approved equal.
10. All manholes located in unimproved easements and right of ways shall be provided with tamper proof lids, be installed two feet (2’) above existing grade and marked with a marker post per Oregon City Standards unless otherwise noted.

11. Sanitary sewer lines crossing less than 12 inches above or below another public utility shall be constructed with PVC C-900/C-905 or approved equal, with a complete stick of pipe, centered at the crossing.

12. Manhole Workmanship: All manholes shall be constructed in accordance with APWA/ODOT Oregon Standard Specifications for Construction and all applicable Oregon City Standard Drawings.

13. All sanitary sewer service laterals shall have a 2-Way Cleanout at the right-of-way line per Oregon City Standard Drawings.

14. Sanitary sewers crossing a water main shall be made at approximately 90 degrees to the waterline alignment, have eighteen (18) inches minimum vertical clearance crossing under waterline, and one full pipe length centered at waterline crossing.

Street System Notes:

1. Engineered fill shall be placed on areas stripped of all organic materials in lifts not to exceed 8-inches in depth and each layer shall be separately and thoroughly compacted. Fill materials shall be placed within 2% of the optimum moisture and no less than 95% compaction per AASHTO T 180. Contractor shall submit test results to the Engineer of Record and City Public Works Inspector.
2. Material in soft spots within the roadway shall be removed to the depth required to provide a firm foundation and shall be replaced with 1-1/2"-0" crushed rock. The entire subgrade shall be thoroughly compacted at the lowest moisture content at which a handful of soil can be molded by a firm closing of the hand. Minimum of 95% compaction AASHTO T 180 required.
3. The sub grade shall be compacted per ODOT/APWA Part 3, Section 00331. Contractor shall submit test results to the Engineer of Record and City Public Works Inspector. The required density of treated and untreated subgrade materials shall not be less than 95% of maximum density as determined by AASHTO T 180.
4. Contractor shall notify the engineer and City when subgrade is complete, 24 hours prior to placement of rock base material, and 24 hours prior to final paving for an inspection of the work. Failure to do so will make any subgrade failure or drainage problems the responsibility of the contractor.
5. The aggregate road base shall be compacted per ODOT/APWA Part 6, Section 00640 and 00641. With materials maintained within 2% of the optimum moisture content. Contractor shall begin compaction of each layer immediately after the material is spread and continue until a density of not less than 95% of the maximum density has been achieved using AASHTO T 180. Contractor shall submit test results to the Engineer of Record and City Public Works Inspector. Testing frequency shall be one test per every 100 linear feet minimum and more frequently at the discretion of the City Public Works Inspector if tests are not meeting a minimum of 95% Compaction per AASHTO T-180.
6. Asphalt concrete pavement mix shall be designed from a mix formula approved by ODOT for material used or as noted on these plans. Contractor to provide Engineer of Record and City with Certificate of Compliance from asphalt pavement plant unless otherwise indicated.
7. The asphalt concrete pavement mix shall be compacted per ODOT/APWA Part 7, Section 00744 with testing by nuclear gauge to at least 92% of theoretical maximum density (Rice Density) per AASHTO T 209 on all lifts. Contractor shall submit test results to the Engineer and City. Testing frequency shall be one test per every 100 linear feet minimum and more frequently at the discretion of the City Public Works Inspector if tests are not meeting a minimum of 92% Compaction per AASHTO T-209.

8. Excess excavation may be spread and compacted evenly on the site in depths of less than one foot per the site grading plan. Vegetation and topsoil to be stripped on fill areas prior to filling. Compaction of 95% of AASHTO T 180 is required in buildable areas. Contractor shall achieve 85% compaction in non-buildable areas. Proper City or County Fill Permit shall be obtained if excess excavation is hauled off site.
9. Monument box locations shall be placed at the beginning, end, centerline intersection, point of curvature and point of tangency for all streets, and in accordance with Clackamas County Surveyor Standards. Contact project surveyor for required locations. The contractor shall install the monument boxes in street areas where marked by the surveyor and in accordance with Clackamas County monument standards and City street standards.
10. All materials, inspections, and tests shall be in accordance with City of Oregon City Standard Specifications and the most recent edition of the Oregon ODOT/APWA Standard Specifications for Construction.
11. Monolithic curb and gutter is required unless otherwise noted.
12. Proof roll with a loaded water truck or 10-11 cubic yards loaded gravel truck is required prior to curb placement and prior to paving.
13. Contractor shall install ADA ramps and sidewalks as shown in accordance with City standard drawings.
14. ADA ramps and sidewalks shall be a minimum of 4-inch thick concrete with 4-inches of compacted ¾”—0”- crushed rock base course.
15. Driveway approaches shall be a minimum of 6-inch thick concrete with 6-inch by 6- inch - 10 gauge steel mesh on top of blocks over 4-inches of compacted ¾”—0”- crushed rock base course.
16. All concrete shall be air entrained, minimum 4.5%, with a minimum compressive breaking strength of 4,000 psi after 28 days.
17. Prior to installation of curb and gutter, ADA ramps or sidewalk, the project Engineer of Record and City Public Works Inspector shall be contacted to inspect string line, formwork, base compaction, and related items.
18. Existing private utilities shall be relocated if necessary. Contractor shall coordinate this work.
19. All utility crossings shall be placed prior to proof roll test for curb installation. The number of crossings, exact location, depth, conduit type, etc. shall be specified by the private utility carriers. Contractor shall coordinate.
20. Contractor shall contact City Public Works Inspector to schedule pre-paving conference prior to commencing paving operations.

21. Furnish a twelve-foot (12-foot) straightedge. Test with a twelve-foot (12-foot) straightedge parallel to and perpendicular to the centerline, as directed. The pavement surface shall not vary by more than one-quarter-inch (1/4 inch). Mark areas not meeting the surface tolerance. These tolerances shall apply when water valve boxes, manhole castings and other utility appurtenances can be adjusted before or during the paving operations.